Amendments to the Claims

This listing of claims will replace all prior revisions and listings of claims in this application.

Listing of Claims

1. (Cancelled) A method of determining which users, from a plurality of users, access to a communications system is to be provided, such access being provided to the plurality of users over a plurality of channels, the method comprising the steps of:

determining, for each of plurality of channels and for each of the plurality of users, a channel measurement feedback characteristic;

determining, for each of the plurality of channels and for each of the plurality of users, a past throughput characteristic; and

determining, a user to be provided access according to the following relationship:

$$k^* = \arg\max_k \{w_k \frac{r_k(t)}{\tilde{r}_k(t)^\alpha}\}$$

where

$r_k(t)$ is the channel measurement feedback characteristic of user k;

$\tilde{r}_k(t)$ is the mean throughput of user k;

w_k is a weight applied to each of the users;

α is the *Alpha Rule* tuning parameter wherein $\alpha \neq 0$ and $\alpha \neq 1$; and

k^* is the selected user.

2. (Cancelled) The method according to claim 1 further comprising the steps of:

determining, a throughput characteristic for the system;

determining, a fairness characteristic for the system; and

adjusting α, as a result of the determined throughput characteristic and the determined fairness characteristic.

3. (Currently Amended) ~~The method according to claim 2 further comprising the steps of:~~ A method of determining which users, from a plurality of users, access to a communications system is to be provided, such access being provided to the plurality of users over a plurality of channels, the method comprising the steps of:

determining, for each of plurality of channels and for each of the plurality of users, a channel measurement feedback characteristic;

determining, for each of the plurality of channels and for each of the plurality of users, a past throughput characteristic; and

determining, a user to be provided access according to the following relationship:

$$k^* = \arg\max_k \{w_k \frac{r_k(t)}{\bar{r}_k(t)^\alpha}\}$$

where

$r_k(t)$ is the channel measurement feedback characteristic of user k;

$\bar{r}_k(t)$ is the mean throughput of user k;

w_k is a weight applied to each of the users;

α is the *Alpha Rule* tuning parameter wherein $\alpha \neq 0$ and $\alpha \neq 1$; and k^* is the selected user; and

determining, a throughput characteristic for the system;

determining, a fairness characteristic for the system; and

adjusting α, as a result of the determined throughput characteristic and the determined fairness characteristic; and

comparing, the determined throughput characteristic for the system with a target throughput characteristic;and

comparing, the determined fairness characteristic for the system with a target fairness characteristic.

4. (Previously Presented)The method according to claim 3 wherein the adjusting step further comprising the steps of:

decrementing α, by a predetermined amount, when the determined throughput characteristic for the system is $\leq$ the target throughput characteristic and the

determined fairness characteristic for the system is ≥ the target fairness characteristic.

5. (Previously Presented) The method according to claim 3 wherein the adjusting step further comprising the steps of:

incrementing α, by a predetermined amount, when the determined throughput characteristic for the system is ≥ the target throughput characteristic and the determined fairness characteristic for the system is ≤ the target fairness characteristic.

6. (Previously Presented) The method according to claim 3 wherein the adjusting step further comprising the steps of:

adjusting the targets, by a predetermined amount, when the determined throughput characteristic for the system is ≤ the target throughput characteristic and the determined fairness characteristic for the system is ≤ the target fairness characteristic.

7. (Previously Presented) The method according to claim 3, wherein the throughput characteristic $\tilde{R}$ is determined according to the following relationship:

$$\tilde{R} = \sum_{k=1}^{K} \tilde{r}_k(t)$$

where

$\tilde{r}_k(t)$ is the mean throughput of user k and K is the total number of users.

8. (Previously Presented) The method according to claim 3, wherein the fairness characteristic $\tilde{F}$ is determined according to the following relationship:

$$\tilde{F} = \frac{(\sum_{k=1}^{K} \tilde{r}_k(t))^2}{(K \sum_{k=1}^{K} \tilde{r}_k(t)^2)}$$

where

$\tilde{r}_k(t)$ is the mean throughput of user k; and

K is the total number of users.

9. (Previously Presented) The method according to claim 4, wherein α is decremented by a percentage of its present value.

10. (Previously Presented) The method according to claim 5, wherein α is incremented by a percentage of its present value.

11. (Previously Presented) The method according to claim 9, wherein the percentage that α is decremented by is between 0% and 100%.

12. (Previously Presented) The method according to claim 10, wherein the percentage that α is incremented by is between 0% and 100%.

13. (Currently Amended) The method according to claim ~~2~~ 3, wherein the adjusting of α is performed in real-time.